

IN THE CLAIMS:

1. (Currently Amended) A ball and socket joint comprising:
with a ball and socket joint housing (1), with;
a ball pivot (2) mounted in the ball and socket joint housing (1), with, said ball pivot
having a joint ball with a surface;
5 a bipolar field transducer (4) arranged at the joint ball (3) of the ball pivot (2); and
at least one a magnetic field direction sensor (5), which is arranged at the ball and socket joint housing (1) and interacts with the magnetic field generated by the field transducer (4),
characterized in that wherein only one pole of the bipolar field transducer (4) is arranged on the surface of the ball.

2. (Currently Amended) A ball and socket joint in accordance with claim 1,
characterized in that wherein the two poles of the field transducer (4) are arranged in the axis of symmetry of the ball pivot (2).

3. (Currently Amended) A ball and socket joint in accordance with claim 1 or 2,
characterized in that wherein the field transducer (4) is a bar magnet.

4. (Currently Amended) A ball and socket joint in accordance with ~~one of the claims 1 through 3~~ claim 1, characterized in that wherein the joint ball (3) consists essentially of a ferromagnetic material and the field transducer (4) is embedded in the joint ball (3) in a layer

(6) consisting of a nonmagnetic material.

5. (Currently Amended) A ball and socket joint in accordance with claim 4,
~~characterized in that wherein~~ the pole of the field transducer (4) located in the joint ball is in
contact with the ferromagnetic joint ball (3).

6. (Currently Amended) A ball and socket joint in accordance with ~~one of the claims~~
~~1 through 5~~ ~~claim 1~~, characterized in that at least two said further comprising another magnetic
field direction sensor[[s]] (5), which interact said magnetic field direction sensor and said
another magnetic field direction sensor interacting with the field generated by the field
transducer (4), said magnetic field direction sensor and said another magnetic field direction
sensor being ~~are~~ arranged at the ball and socket joint housing (1), wherein the measuring
reference axes (x, y) of the magnetic field direction sensors (5) are located in one plane and do
not extend in parallel to one another.
5

7. (Currently Amended) A ball and socket joint in accordance with claim 6,
~~characterized in that wherein~~ the two magnetic field direction sensors (5) are arranged on a
plate (7) at an angle of 90° in relation to one another.

8. (Currently Amended) A ball and socket joint in accordance with claim 7,
~~characterized in that wherein~~ the plate (7) is arranged at a closing cover (8) of the ball and

socket joint housing (1).

9. (Currently Amended) A ball and socket joint in accordance with claim 7 or 8, characterized in that wherein the plate (7) is arranged at right angles to the central axis of the ball pivot.

10. (Currently Amended) A ball and socket joint in accordance with ~~one of the claims 1 through 9~~ claim 1, characterized in that wherein the ball and socket joint is used as a vehicle level control in a chassis of a vehicle, wherein the ball and socket joint housing (1) and the ball pivot (2) are arranged between the chassis of the vehicle and the wheel suspension of the vehicle.

11. (New) A ball and socket joint comprising:

a ball and socket joint housing;

a ball pivot mounted in the ball and socket joint housing, said ball pivot having a joint pin and a joint ball with a surface opposite said joint pin;

5 a bipolar field transducer arranged within the joint ball of the ball pivot with one pole of the bipolar field transducer arranged on said surface of the ball, said bipolar field transducer generating a magnetic field; and

a magnetic field direction sensor arranged at the ball and socket joint housing for sensing a position and direction of said magnetic field generated by said field transducer.

12. (New) A ball and socket joint in accordance with claim 11, wherein each of two poles of the bipolar field transducer are arranged adjacent to or passing through an axis of symmetry of the ball pivot.

13. (New) A ball and socket joint in accordance with claim 11, wherein the field transducer is a bar magnet.

14. (New) A ball and socket joint in accordance with claim 11, further comprising a non magnetic layer formed in an end of said joint ball, wherein a main portion of the joint ball consists essentially of a ferromagnetic material and the field transducer is embedded in the joint ball in said non magnetic layer.

15. (New) A ball and socket joint in accordance with claim 14, wherein the other pole of the field transducer is located in the joint ball and is in contact with the main portion of the joint ball.

16. (New) A ball and socket joint in accordance with claim 11, further comprising another magnetic field direction sensor, said magnetic field direction sensor and said another magnetic field direction sensor interacting with the field generated by the field transducer, said magnetic field direction sensor and said another magnetic field direction sensor being arranged at the ball and socket joint housing, wherein the measuring reference axes of the magnetic field

direction sensors are located in one plane and do not extend in parallel to one another.

17. (New) A ball and socket joint in accordance with claim 16, wherein each of said magnetic field direction sensor and said another magnetic field direction sensor are arranged on a plate at an angle of 90° in relation to one another.

18. (New) A ball and socket joint in accordance with claim 17, wherein the plate is arranged at a closing cover of the ball and socket joint housing.

19. (New) A ball and socket joint in accordance with claim 17, wherein the plate is arranged at right angles to a central axis of the ball pivot.

20. (New) A ball and socket joint in accordance with claim 10, wherein the ball and socket joint is used as a vehicle level control in a chassis of a vehicle, wherein the ball and socket joint housing and the ball pivot are arranged between the chassis of the vehicle and a wheel suspension of the vehicle.